

ABSTRACT OF DISCLOSURE

A carrier recovery apparatus, which may used in a high-definition TV receiver, includes an error compensating unit, an error detecting unit, and an oscillator. The error compensating unit combines a complex input signal with a frequency signal to generate a complex output signal. The complex output signal includes an error reference signal. The error detecting unit determines a location of the error reference signal in the complex output signal based on a real part of the complex output signal, and generates an error signal based on the location of the error reference signal. The oscillator generates the frequency signal with a frequency that varies based on the error signal. The complex input signal may be a VSB signal that is represented as a complex number, and the error reference signal may be a PN63 signal in a field synchronization signal of the complex input signal.

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